

**WHAT IS CLAIMED IS:**

1. A method comprising:  
forming a column on a silicon substrate, the column having an atomically sharp tip;  
depositing a membrane on the column;  
removing a portion of the column after depositing the membrane; and  
etching the membrane to form a nozzle end.
2. A device comprising:  
a membrane formed by depositing a conformal layer of silicon nitride on a silicon post oriented perpendicular to a silicon substrate, the membrane having an orifice; and  
a fluid reservoir in fluidic communication with the orifice.
3. The device of claim 2 further comprising a cell retention cavity.
4. A method comprising:  
transferring a pattern of dots onto a silicon substrate;  
oxidizing the substrate to form an atomically sharp silicon tip corresponding to each dot;  
creating a shaft for each silicon tip;  
forming a pedestal at the base of each shaft;  
coating the silicon tips with a membrane material; and  
removing a portion of the silicon from each tip.
5. The method of claim 4 further comprising forming an opening in each tip.